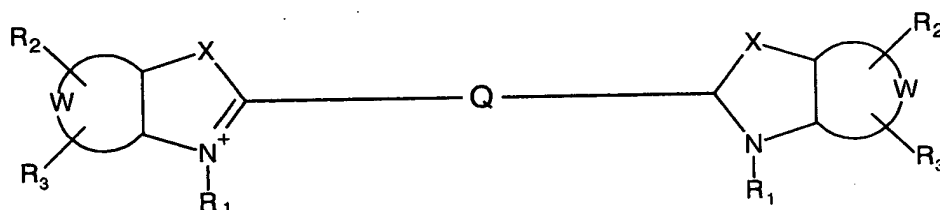


WHAT IS CLAIMED IS:

1. A symmetric cyanine of the formula:



(1)

wherein:

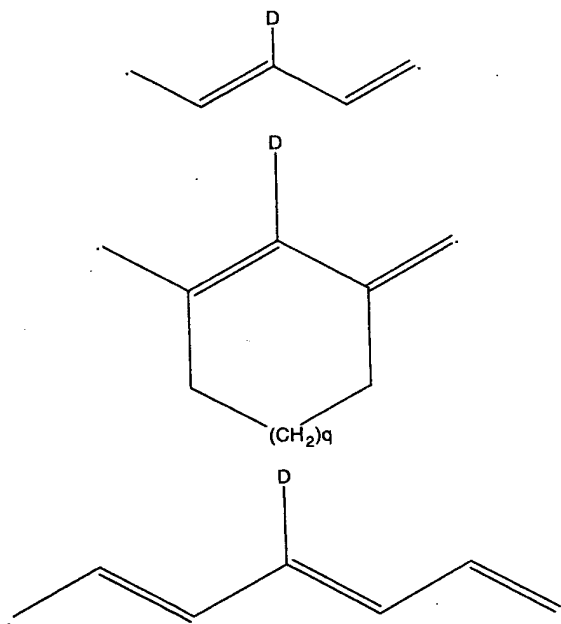
X is selected from the group consisting of O, S and $C(CH_3)_2$;

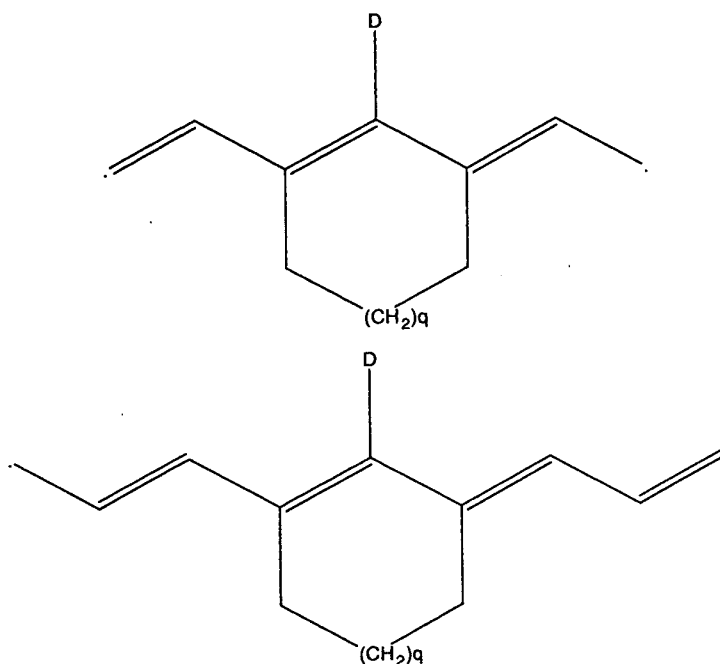
W represents non-metal atoms required to form a benzo-condensed or a naphto-condensed ring;

R_1 is selected from the group consisting of $(CH_2)_nCH_3$, $(CH_2)_nSO_3^-$ and $(CH_2)_nSO_3H$, wherein n is an integer selected from 0 to 6 when R_1 is $(CH_2)_nCH_3$, and n is an integer selected from 3 to 6 when R_1 is $(CH_2)_nSO_3^-$ or $(CH_2)_nSO_3H$;

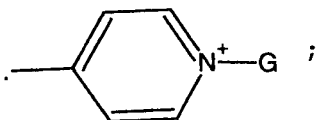
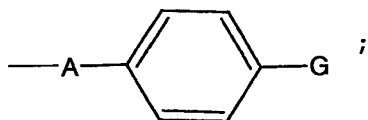
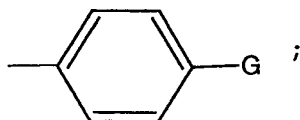
R_2 and R_3 are independently selected from the group consisting of H, a sulphonic moiety and a sulphonate moiety;

Q is selected from the group consisting of:





wherein q is 0 or 1 and D is selected from the group consisting of:



wherein A is O or S ;

G is a nucleophile moiety selected from the group consisting of $(CH_2)_mNH_2$, $(CH_2)_mSH$, $(CH_2)_mY(CH_2)_pOH$, $(CH_2)_mY(CH_2)_pNH_2$ and $(CH_2)_mY(CH_2)_pSH$, wherein Y is selected from the group consisting of $-NH-$, $-CONH-$, $-O-$ and $-S-$, m is an integer selected

from 0 to 6 and p is an integer selected from 1 to 6;
 or wherein G is a moiety capable of reacting with N, O or S nucleophiles, and is selected from the group consisting of $(CH_2)_mCOOH$, $(CH_2)_mglycidyl$, $(CH_2)_m$ maleimide, $(CH_2)_mCO-NHS$, $(CH_2)_mCO$ -imidazole, $(CH_2)_mSO_2CH=CH_2$, $(CH_2)_mCONHNH_2$, $(CH_2)_mCHO$, $(CH_2)_mY(CH_2)_pCOOH$, $(CH_2)_mY(CH_2)_pglycidyl$, $(CH_2)_mY(CH_2)_p$ maleimide, $(CH_2)_mY(CH_2)_pCO-NHS$, $(CH_2)_mY(CH_2)_pCO$ -imidazole, $CH_2(CH_2)_mO-PAM$, $(CH_2)_mY(CH_2)_pSO_2CH=CH_2$, $(CH_2)_mY(CH_2)_pCONHNH_2$, $(CH_2)_mY(CH_2)_pCHO$ and $(CH_2)_mY(CH_2)_pO-PAM$, wherein Y, m and p have the meanings indicated above.

2. A symmetric cyanine according to claim 1, wherein at least one of the moieties R_1 to R_3 is, or contains a sulphonic moiety or a sulphonate moiety.

3. A symmetric cyanine according to claim 1, wherein X is $C(CH_3)_2$.

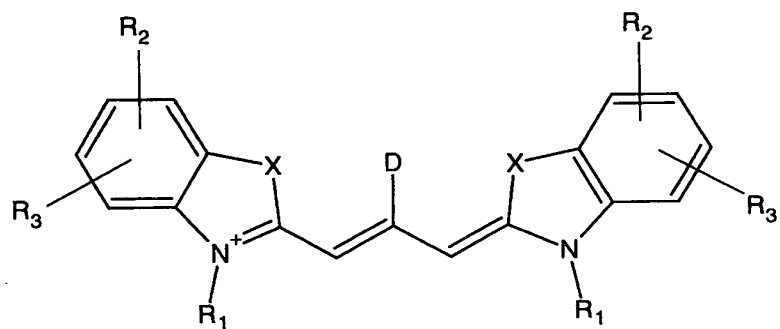
4. A symmetric cyanine according to claim 3, wherein one of the moieties R_2 and R_3 is a sulphonic moiety or a sulphonate moiety.

5. A symmetric cyanine according to claim 4, wherein R_1 is $(CH_2)_nSO_3^-$ or $(CH_2)_nSO_3H$.

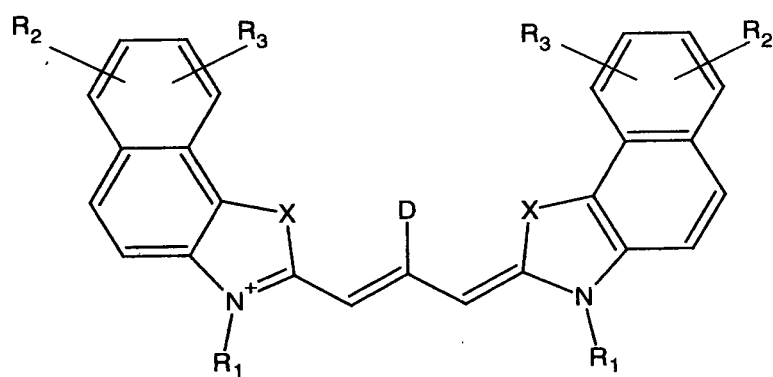
6. A symmetric cyanine according to claim 1, wherein X is S and R_1 is $(CH_2)_nSO_3^-$ or $(CH_2)_nSO_3H$.

7. A symmetric cyanine according to claim 1 having any of the formulae 2a to 2l:

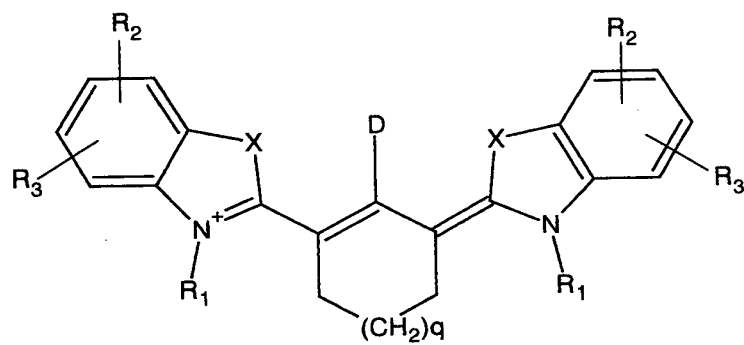
202070-4583001



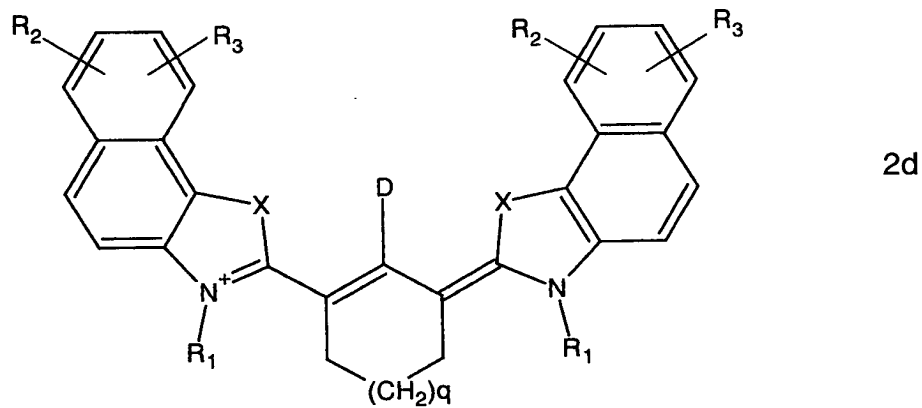
2a



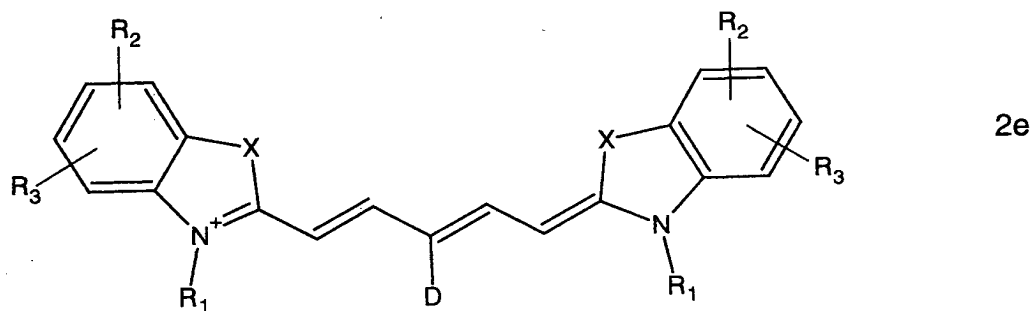
2b



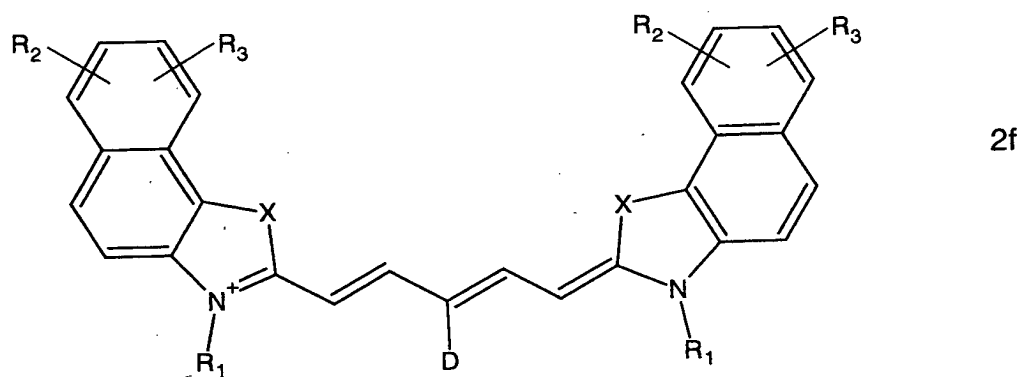
2c



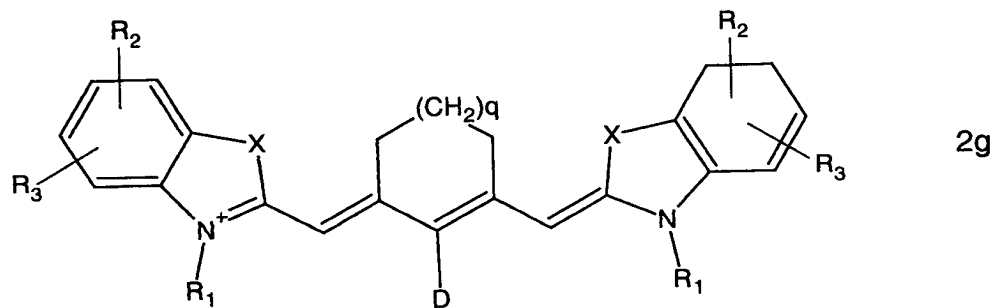
2d



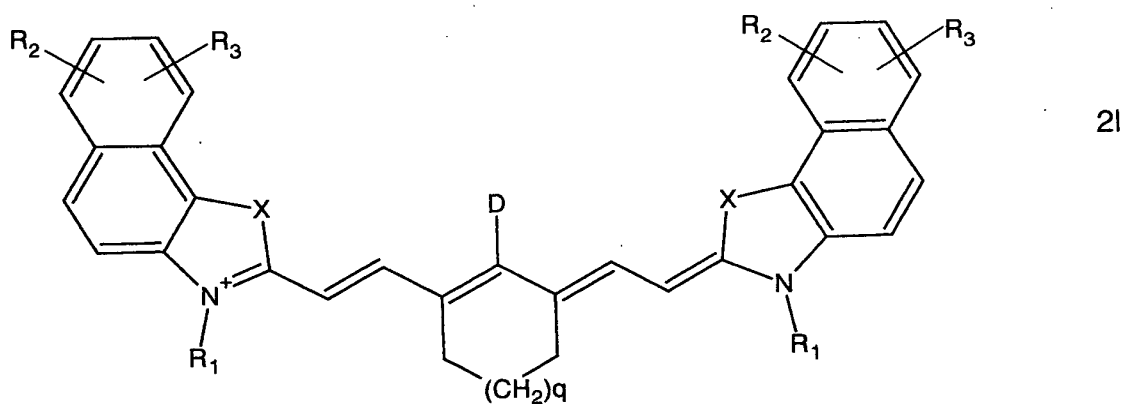
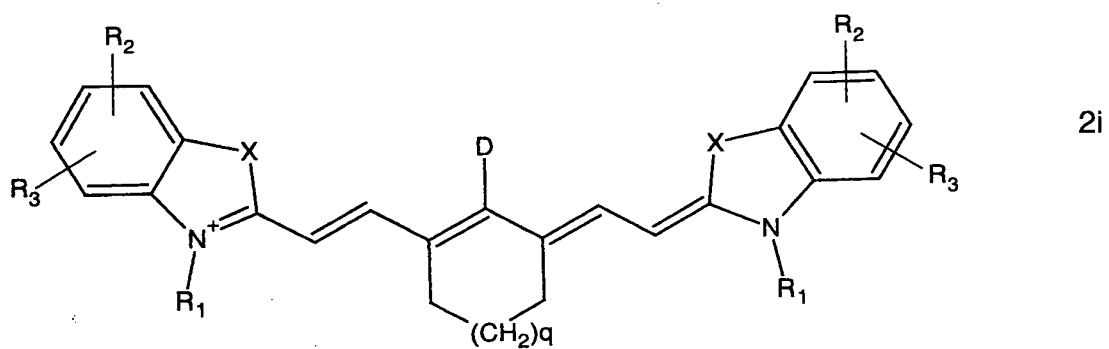
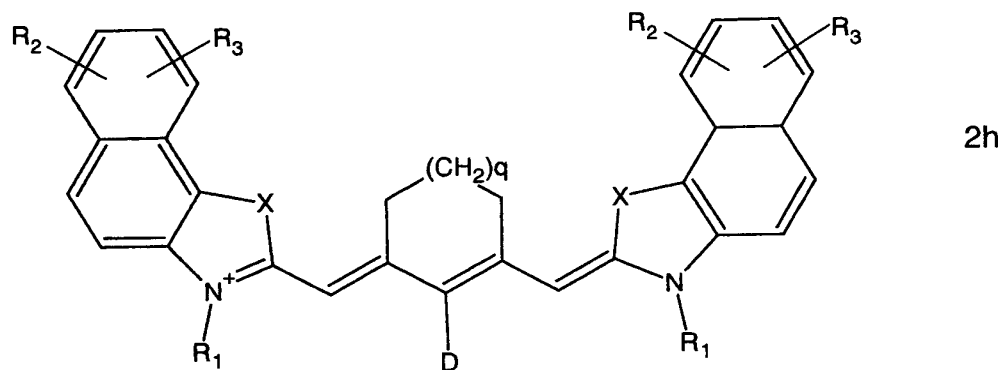
2e



2f



2g



wherein R_1 , R_2 , R_3 , X , q and D have the meanings indicated in claim 1.

10038554-010202